



ENERT/S

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# Final due diligence for Green Farm Solar Project (7.038 MW<sub>DC</sub>/4.950 MW<sub>AC</sub>)

Project located in Robersonville, North Carolina

February 22, 2016

**FINAL**



## 7. PROJECT DESIGN AND ENGINEERING REVIEW

Enertis has received a permit level drawing package produced by Entropy Solar Integrators dated October 3<sup>rd</sup>, 2015. The package includes electrical details, wiring schedules, medium voltage details, grounding details, and equipment labels. The drawings generally comply with common engineering practice and the only issue discovered was that the fence height is not called out. This can be called out on the Enlarged Site Plan (Sheet E1) or in the Electrical Details (Sheet E12) where the fence figure is shown.

The Plant's low voltage DC system utilizes 22,344 Jinko Solar JKM-315P 315 W modules. The modules are mounted on a fixed tilt racking system at a 20° tilt. The Plant is divided into three sub-systems which are summarized in Table 7.1 below.

Green Farm Solar Sub-System Summary			
Inverter	Number of Strings	Number of Modules	DC/AC Power (MW)
1 – 6	196	3,724	1.173 MW <sub>DC</sub> / 0.825 MW <sub>AC</sub>
<b>Total</b>	<b>1,176</b>	<b>22,344</b>	<b>7.038 MW<sub>DC</sub> / 4.950 MW<sub>AC</sub></b>

Table 7.1. Green Farm Sub-System/Inverter Summary

The combiner box schedule provided shows that the maximum DC voltage drop is 0.98%, which is acceptable.

The six 825 kW inverter-transformer sub-systems are connected in parallel and then transitioned into a single combined medium voltage feed. The medium voltage output underground feeder transitions into overhead conductors at the utility pole with fused cut out and surge arrestors. The feeder then continues to the next pole which hosts the customer meter prior to connecting to the GOAB switch at the point of delivery where the Utility performs their scope of work based on the Project interconnection agreement connecting the Project to the Point of Interconnection.

**FINAL**